

DEFENSE NUCLEAR FACILITIES SAFETY BOARD

MEMO TO: Timothy Dwyer, Technical Director
FROM: Matthew Duncan and Rory Rauch, Pantex Site Representatives
SUBJECT: Pantex Plant Report for Week Ending November 4, 2011

DNFSB Staff Activity: B. Laake observed the Hazard Analysis Task Team walkdown of the W84 known-state process. T. Spatz observed the nuclear explosive safety study of W87 physics package assembly operations.

Procedure Adherence: This week, a representative from B&W's performance assurance department observed a tie-down configuration during a material move that violated two of the safety requirements in the B&W procedure for the onsite transportation of special nuclear material (SNM). The first procedure violation occurred after the material handler transported a Kennedy Kit containing a tritium reservoir on a pallet, not a wire basket. The second violation occurred when the material handler secured a drum containing a pit to the pallet with only one nylon strap, not two. It should be noted that neither of these requirements are technical safety requirements. The responsible managers for these activities have conducted a refresher briefing for material handlers on the proper tie-down configurations for the movement of SNM. During the critique for the event, the material handler noted that he did not have the procedure containing these safety requirements available in the forklift that was used to complete the move. This particular procedure is categorized as a "general" level-of-use procedure, which means that it must be available in "the immediate area of the work being performed." During the cause analysis of the event, supply chain management personnel plan to address the question of what constitutes "the immediate area of the work being performed" for transportation activities.

Fire Barrier Adequacy: Last week, while participating in activities to support a facility modification, fire protection engineers found that the fire barrier sealant around the facility penetrations—which is credited in the applicable documented safety analysis (DSA) to prevent an external fire from propagating to an internal fire for 2 hours—was not an Underwriters Laboratories (UL)-listed fire barrier material, as they expected. They performed an extent-of-condition review and found similarly questionable sealants in other nuclear facilities. B&W subsequently paused operations in the facilities with suspect fire barrier sealant. After additional research, authorization basis (AB) analysts discovered that applicable DSA had already identified this issue and it had been addressed in a document that presents engineering judgment-based arguments for the acceptability of the non- UL listed sealant. B&W fire protection engineers plan to develop a more rigorous basis for the ability of these sealants to perform their credited safety function by using computational fluid dynamics software to model the response of these sealants to the design basis external fire event.

AB Work Plan: This week, the B&W AB Department submitted its fiscal year 2012 AB work plan. Aside from mission-critical work, much of the AB Department's workload will be devoted to revising certain DSAs in accordance with the objectives of the DSA upgrade initiative (see 6/24/11 report). The DSAs designated for revision this year include the Nuclear Material Safety Analysis Report (SAR) and the LINAC (linear accelerator) SAR. Additional actions identified in the work plan include the following: develop safety basis performance metrics and leading indicators, revise the tripping man analysis, and develop a pilot event tree supported by a fault tree analysis for a single accident scenario.